



SASKATCHEWAN
pulse
Growers



In Pursuit of Profitability

2007|2008

Annual Report



Our Vision

Saskatchewan will be an industry leader in the production, processing, and marketing of high quality and high value pulse products for a viable and profitable Canadian pulse industry.

Our Mission

To provide leadership for an innovative, profitable and sustainable Saskatchewan pulse industry, through research, market development and communication in collaboration with stakeholders.

Our Values

At Saskatchewan Pulse Growers we:

- Strive for excellence
- Conduct ourselves with honesty and respect
- Show respect for the individual
- Act with professionalism

Background

The first Saskatchewan pulse producer organization (Saskatchewan Pulse Crop Growers Association – SPCGA) was formed in 1976. On July 25, 1984 the Provincial Cabinet approved a plan that established the Saskatchewan Pulse Crop Development Board, later known as Saskatchewan Pulse Growers or SPG. In a 1984 plebiscite, producers voted to institute a mandatory, non-refundable check-off to fund projects to develop the industry.

Funding

A mandatory, non-refundable check-off of 1% of the gross value of sale is deducted at the first point of sale when a producer sells pulse crops.

Leadership

SPG is directed by a Board of seven producer elected pulse growers from Saskatchewan.

Programs

Communications – Our key communications initiatives include: *PulsePoint* magazine, *Pulse Market Report*, annual report, website, Pulse Days conference, regional workshops, and sponsorship activities.

Market Development – Our efforts focus on developing international and domestic market opportunities for pulses in human and animal diets, in co-operation with Pulse Canada.

Operations – SPG staff members combine industry knowledge and individual expertise to deliver programs as directed by the SPG Board and as outlined in our Staff Operations Plan.

Policy – SPG provides leadership on issues such as government investment and regulation, producer security and crop protection.

Research and Development – Our program provides funding and leadership for ongoing research including: disease management and resistance, genetic improvement and quality assessment, agronomy, weed control, processing and utilization of pulse crops, livestock nutrition and studies that support the Pulse Canada Food Strategy.

Variety Release Program – SPG supports the development of new pulse varieties through the University of Saskatchewan's Crop Development Centre pulse breeding program. The SPG Variety Release Program offers Breeder seed without royalties to Select-status seed growers in Saskatchewan and Alberta, while specialty varieties are tendered to specific companies.

2008 BOARD OF DIRECTORS



Maurice Berry,
Chair

PO Box 280
Carievale SK S0C 0P0
306-449-2241

Maurice farms in southeast Saskatchewan near Carievale in a family partnership called Berry Farms. His operation consists of 4900 acres of peas, canola, barley, wheat, pinto beans, oats, flax, and sunflowers. It operates on a 1/3 pulse, 1/3 oilseed and 1/3 cereal crop rotation on a direct seeded basis. He completed his three-year Diploma of Agriculture from the University of Saskatchewan. He has served as a Director on the Pulse Canada Board and is a former RM Councilor. Maurice has been involved in many community organizations over the years. Maurice joined the SPG Board in 2004.



John Bennett,
Vice-Chair

PO Box 703
Biggar SK S0K 0M0
306-948-2852

John has farmed in the Biggar area for more than 30 years. He has a no-till operation growing pulses, oilseeds and cereals. John is past President of the Saskatchewan Soil Conservation Association (SSCA) and sits on the Board of the Saskatchewan Research Council. He was named SSCA Farmer of the Year in 1993 and Canadian No-Till Farmer of the Year in 2000. In 2007, John was awarded an Honorary Life Membership with the Saskatchewan Institute of Agrologists. John joined the SPG Board in 2005.



Lloyd Affleck,
Director

PO Box 10
Beechy SK S0L 0C0
306-858-2558

Lloyd and his wife Heather farm with their son and daughter-in-law near Beechy. They have grown Pedigreed seed for the past 38 years – 28 of those years have included pulses. Lloyd has acted as an

advisor to the development of the Special Crop Act Initiative. He is also past Chair of Pulse Canada. Lloyd is a Director on the Board for Canterra Seeds and is Co-Chair of the Interprovincial Industry Security Committee. Lloyd was a Director on the SPG Board from 1992-1995 and joined again in 2003.



David Nobbs,
Director

31 Frere St
Kindersley SK S0L 1S1
306-463-3277

David farms 3400 cultivated acres with his father and his brother on the family farm near Lancer. Crops grown include lentils, kabuli chickpeas, coriander, durum wheat and canary seed. He is currently employed as General Manager and Director of Canpulse Foods in Kindersley – a special crop exporting and processing plant that primarily deals with lentils and canaryseed. His past experience includes both small plot research and sales experience. He is currently representing SPG on the Pulse Canada Board and the Canadian Grain Commission Western Standards Committee and Pulse Sub-Committee. David joined the SPG Board in 2006.



Barbara Podhorodeski,
Director

PO Box 88
Shipman SK S0J 2H0
306-426-2350

Barbara and her husband have a mixed-farm operation near the town of Shipman. They farm 3000 acres of cultivated land using a rotation of peas, wheat, canola, canary and forages. She earned her Agriculture degree from the University of Saskatchewan. She currently represents SPG on the Western Grains Research Foundation Board. She has worked with the Prairie Farm Rehabilitation Administration and the Conservation Learning Centre. She is past Chair of the Saskatchewan Canola Development Commission. Barbara joined the SPG Board in 2004.



Murray Purcell,
Director

RR 3 PO Box 7 Site 313
Saskatoon SK S7K 3J6
306-241-7432

Murray's family farm near Pike Lake incorporates three generations of farmers. He is a graduate of the University of Saskatchewan with an Education degree. Murray taught school for a number of years. Currently, he is serving as Chair of the Agriculture Council of Saskatchewan Board, Vice-President of the Saskatchewan Agricultural Hall of Fame Board, Director and Executive Member of the Saskatchewan Municipal Hail Insurance Board and is a member of the University of Saskatchewan Senate. Murray joined the Board in 2007.



Jeff Sopatyk,
Director

630 Beechmont Court
Saskatoon SK S7Z 1C9
306-227-7867

Jeff and his wife operate Sopatyk Seed Farms in the Saskatoon area. They farm 6,000 acres of Pedigreed seed peas, lentils, chickpeas, canola, barley, wheat, and hemp. Jeff has a diploma from the School of Agriculture at the University of Saskatchewan and attended an additional two years in the College of Agriculture. He has also served as a Director for Farm Pure Seeds. Jeff is a Select status seed grower and has participated in the SPG Variety Release Program, which he believes has contributed to the ongoing success of SPG. He is currently representing Saskatchewan Pulse Growers on the Pulse Canada Board. Jeff joined the Board in 2008.

All photos by Geoff Howe.



CHAIR'S REPORT



It was a great pleasure to serve as the Chair of the Saskatchewan Pulse Growers (SPG) this past year. It has been a rewarding year for the Saskatchewan pulse industry where we saw record high prices for pulse crops and a strong Canadian dollar.

It has also been a rewarding year for the Board and Staff at SPG.

a licensing requirement for grain buyers, and to eliminate the producer payment security program. If passed, this will leave producers with no protection if they are not paid for their grain. Suitable payment protection alternatives for producers and the trade will be examined so producers are not exposed to financial risks when delivering their crops to buyers. Scott Wolfe Management in Winnipeg, MB will be evaluating a range of options available to the

Transportation continues to be a problematic area for special crop shippers. Pulse Canada is continuing to develop and implement their Industry Transportation Strategy to address process failures and create win-win opportunities for all with a stake in moving pulses and special crops. Pulse Canada is currently monitoring rail service to better understand the rail service system. The SPG Board is confident that progress will be made and as a result, service will improve in the future.

SPG IS HELPING TO BUILD A PROSPEROUS PULSE INDUSTRY IN SASKATCHEWAN

This past February, SPG contracted Insignitrix Research Services to survey 800 pulse producers in Saskatchewan to measure awareness levels and satisfaction of SPG's key program areas. Once again, thank you to all producers who provided their input. We were happy to see that 90 per cent of the producers believe SPG is helping to build a prosperous pulse industry in Saskatchewan and 85 per cent of producers believe they receive value for the mandatory, non-refundable check-off. We will continue to work hard to build a prosperous pulse industry and provide even more value for Saskatchewan pulse producers.

The SPG Board also participated in the Saskatchewan Crop Insurance Corporation and Ministry of Agriculture's Crop Insurance Review project where we ensured pulse producers concerns were addressed. Some areas we identified were improved coverage, the reinstatement of spot loss hail insurance, and improved coverage for wildlife damage. We attended meetings in four locations across Saskatchewan with the same concerns at each meeting.

With the proposed changes to the Canadian Grain Commission (CGC) licensing and security and the introduction of Bill C-39, SPG has been working with organizations representing western Canadian farmers, processors, and exporters in the grains, oilseeds, and special crops sector to look at options for producer payment protection.

Bill C-39 proposes changing the CGC licensing and security system to remove mandatory bonding as

industry including, security-based mechanisms, insurance-based mechanisms, fund-based mechanisms and clearinghouse models. It is important that any alternatives minimize the possibility of business relationships between buyers and sellers becoming strained if security is removed from the licensing requirement.

SPG, along with Pulse Canada was successful in increasing access to crop protection products through our participation in the Pest Management Regulatory Agency's (PMRA) Grower Requested Own Use Program (GROU). The program gives producers the ability to import the United States version of a herbicide (including generic products) for their own use at a lower price. Some of the products that were approved include:

- Reglone Desiccant
- Nufarm 2,4-D Amine 500 Liquid Herbicide
- Sevin® Brand XLR PLUS
- BRAVO ZN
- GF-120 NF NATURALLYTE FRUIT FLY BAIT
- AATREX® LIQUID 480
- GAVEL 75DF FUNGICIDE
- TOUCHDOWN iQ LIQUID HERBICIDE
- REFLEX LIQUID HERBICIDE
- ROUNDUP WEATHERMAX WITH TRANSORB 2 TECHNOLOGY LIQUID HERBICIDE
- BANVEL II HERBICIDE
- BASAGRAN LIQUID HERBICIDE

For information about the GROU program, please visit www.pmr-arla.gc.ca/english/appregis/grou/grou_imp-e.html

Pulse Canada is promoting pulses as an excellent food choice with health-promoting benefits as a part of their Food Strategy. Research recently concluded with human clinical trials and the results are promising for pulses. Pulse Canada hosted the Pulse Crop Symposium in January, which brought together over 200 participants including representatives from the food industry, health professionals, researchers, media, government and the pulse industry from Canada, the United States and abroad. The Symposium raised the profile of pulses and pulse related food and nutrition research. A second symposium will be held in February 2009.

Pulse Canada is also working on branding pulses as environmentally friendly. SPG and Pulse Canada believe that pulses can play a positive role in mitigating environmental concerns, particularly those related to greenhouse gas emissions.

SPG continues to work closely with Pulse Canada on issues and projects that are of interest to all Canadian pulse producers. Our investment in Pulse Canada's programs ensures that SPG has a voice federally and internationally.

I have enjoyed my term as Chair of the Board and believe that we have been successful in many areas, always keeping in mind our goal that we are "in pursuit of profitability" for pulse producers in Saskatchewan.

Maurice Berry, Board Chair



EXECUTIVE DIRECTOR'S REPORT

Our industry experienced excitement and optimism this past year with record high prices for pulse crops. Great strides were made at the Saskatchewan Pulse Growers (SPG) in Research and Development (R&D) and Communications. We had another great turnout for Pulse Days 2008 with over 950 producers, industry and researchers in attendance. It was a great pleasure to honour Germain Dauk with the Pulse Promoter Award. Germain was a Director with SPG from 1998-2004, and Chair of the Pulse Canada Board from 2001-2003. His support for the development of this industry has not gone unnoticed.

This past January, SPG launched the new *Green Lentil Market Report*, a monthly newsletter designed to provide green lentil marketing information to Saskatchewan lentil producers. The SPG Board received feedback from consultations with producers and the pulse industry about green lentil profitability and decided that the most appropriate course of action was to provide producers with unbiased, timely and consistent market intelligence in the form of a monthly newsletter to assist in production and marketing decisions.

We initiated the project as a 16-month trial phase with funding from Advancing Canadian Agriculture and Agri-Food Saskatchewan (ACAAFS). The *Green Lentil Market Report* was a follow up from the *Market Risk Management Tools for Green Lentils* report which reviewed the declining profitability of green lentils for growers and processors.

The *Green Lentil Market Report* consisted of a Bears and Bulls opinion section with marketing tips and information from contributors within the pulse industry, and the On the Market section with statistical data such as supply and demand ratios from STAT Publishing. All lentil growers who had grown or sold lentils in the past two years received copies.

SPG Board and staff had such positive feedback from the *Green Lentil Market Report* that it was expanded to include red lentil marketing information in July and further expanded in September to include marketing information about peas and chickpeas. It was renamed the *Pulse Market Report* and delivered to all Saskatchewan pulse producers who had sold or

grown pulses in the past two years. The report was also available to those who signed up to receive it by email, and on the SPG website at www.saskpulse.com.

In February, SPG representatives traveled to Coimbatore, India to assess the capability of Tamil Nadu Agricultural University (TNAU) to engage in food product development research with Canadian split green lentils. Pulse consumption has been

Agri-Food Canada's Agricultural Bioproducts Innovation Program (ABIP). SPG played a lead role in the development of the PURENet concept, proposal development and submission to ABIP. SPG has also agreed to administer the PURENet program.

Once again, investment in research remains a top priority for SPG. Producers continue to get



OUR INDUSTRY EXPERIENCED EXCITEMENT AND OPTIMISM THIS PAST YEAR

part of Indian culture for centuries and India's growing population and subsequent increased demand for pulses means that they must now rely on imports to supplement domestic pulse production. In the past decade, Canadian yellow peas and red lentils have been imported in large quantities by India, but Canadian green lentils are not significant in the Indian market.

There is a strong potential for split and dehulled green lentils to be substituted for other pulses in selected Indian foods. SPG will be providing TNAU with funding over two years to conduct the required research and market development. The project will consist of a market survey of native pulse based food products, comparative study of the food related characteristics of native pulses and split green lentil, development of green lentil-based food products, transfer of technology for green lentil-based food processing to local processors and an evaluation of consumer acceptability of green lentil based food products.

Our goal is to demonstrate that Canadian split green lentils can complement pigeon pea in traditional Indian foods. India consumes about two million tonnes of pigeon pea annually. SPG wants to replace 10 per cent of India's pigeon pea market with Canadian split green lentils (200,000 tonnes), for a potential market impact of \$CDN 160 million annually.

Last November, AAFC announced funding of \$5.3 million for the Pulse Research Network (PURENet), a Canada-wide network of pulse related research projects approved under Agriculture and

tremendous value from the breeding work being done at the University of Saskatchewan's Crop Development Centre (CDC) through our pulse breeding agreement. We know producers see value in this investment and we believe this is our most strategic investment. Our Variety Release Program continues to operate on a royalty-free basis ensuring that producers are getting the best possible varieties in a timely and economical way.

In the upcoming year SPG will be reviewing its research strategy and conducting a new Return on Investment (ROI) analysis to ensure that we continue to fund research beneficial to the Saskatchewan pulse industry. We will continue to search for new research investment opportunities that will strengthen the competitive advantage of Saskatchewan pulse producers and increase demand for our production. Pulse research is a long-term commitment and producers are now benefiting from research investments from pulse check-off deductions over the past two decades. Our investments today will provide benefits for the decades to come.

Garth Patterson, Executive Director

SPG STAFF

Executive Director

Garth Patterson

Director of Research

Kofi Agblor

Research Project Manager

Allison Fletcher

Variety Program Administrator

Raelene Regier

Communications Manager

Amanda Olekson

Communications Specialist

Rachel Kehrig

Controller

Helen Baumgartner

Accounting Clerk

Melanie Goring

Records Administrator

Shelly Weber

Administrative Assistant

Jennifer Saunders

Livestock Market

Development Consultant

Michelle Fleury



Back Row (L-R) – Allison Fletcher, Garth Patterson, Amanda Olekson, Rachel Kehrig, Shelly Weber and Michelle Fleury.

Middle Row (L-R) – Raelene Regier, Helen Baumgartner, Kofi Agblor, and Jennifer Saunders.

Front Row – Melanie Goring

Photo by Geoff Howe.

HIGHLIGHTS FROM THE PAST YEAR

Major Milestones

September 2007



SPG wins the Henry Heald Gold Award for the best Canadian produced website (above) at the Canadian Farm Writers' and Broadcasters' Awards.

SPG provides a financial contribution to the three-year Pulse Environment Project carried out by Pulse Canada investigating the role that pulses can play in environmental sustainability in Canada's food production system.

November 2007

Two positions are filled on the SPG Board by acclamation. Returning to the Board is John Bennett and joining the Board is Jeff Sopatyk.

SPG receives an Award of Merit at the Canadian Agri-Marketing Association Awards for Pulse Days 2007 – The Business of Farming in the Special Events category.

SPG and Cornerstone Design receive an Award of Merit for their 2005-06 Annual Report – Unlocking Potential at the Saskatchewan ACE Awards recognizing Communication Excellence in Saskatchewan.

Agriculture and Agri-Food Canada (AAFC) announces funding of \$5.3 million for the Pulse Research Network (PURENet), a Canada-wide network of pulse related research projects approved under Agriculture and Agri-Food Canada's Agricultural Bioproducts Innovation Program (ABIP). SPG played a lead role in the development of the PURENet concept, proposal development and submission to ABIP.

December 2007

The Grasshopper Identification and Control Methods Booklet is recognized with an Award for Excellence from the Communicator Awards based in New York. The international awards program honours creative excellence for communications professionals in all fields. The book was produced in 2006 through Agriculture and Agri-Food Canada's (AAFC) Reduced Risk Initiative. It was written by Dan Johnson at the University of Lethbridge with help from Scott Hartley at Saskatchewan Ministry of Agriculture. SPG also played a role in the production of this book.

January 2008

Saskatchewan Pulse Growers holds its 24th Annual General Meeting.



Pulse Days 2008 – (above and right) Building the Bioeconomy attracts more than 950 participants.

Photos by Geoff Howe.



Germain Dauk is named the 2007 Pulse Promoter of the Year.

SPG recognizes University of Saskatchewan (U of S) PhD student Lasantha Ubayasena, the 2007 recipient of the Don Jaques Memorial Fellowship and U of S PhD student Aziz Rehman, the 2007 recipient of the Dr. Alfred E. Slinkard Scholarship at the Pulse Days awards ceremony.

SPG announces the winners of the Pulse Days 2008 Pulse Research Poster Session. The student posters were judged based on category (Agronomy, Breeding and Processing) and the winners were each awarded \$500. U of S student Leah Fedoruk wins in the Agronomy category, U of S student Mohammad Tahir wins in the Breeding category and University of Manitoba student Heather Maskus wins in the Value Added Processes category.

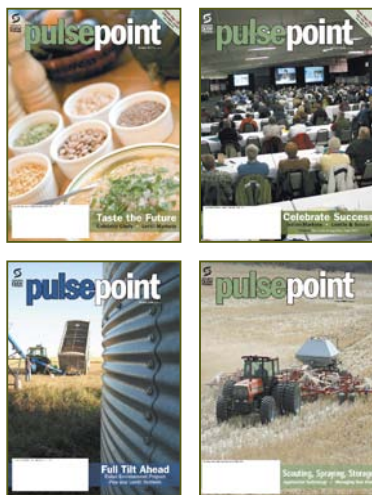


SPG launches the Green Lentil Market Report (above) – a monthly newsletter mailed and emailed to Saskatchewan lentil producers with lentil marketing information. .

Red Lentil Croppportunity Team meets to update the red lentil industry development strategy. The meeting includes major red lentil exporters of from Saskatchewan.

February 2008

Members of the SPG staff and Board, as well as individuals from the U of S, AAFC, and Pulse Canada travel to Tamil Nadu Agricultural University (TNAU) in Coimbatore, India to assess the



capability of TNAU to engage in food product development research with Canadian dehulled large and small green lentils.

More than 380 people attend the Regional Pulse Development Workshops held in Swift Current, Moose Jaw and Weyburn.

For the 2007 tax year, 40% of the Saskatchewan pulse check-off qualifies for a federal tax credit.

SPG contracts Inshtrix Research Services to survey 800 pulse producers by telephone to measure awareness levels and satisfaction of SPG's key program areas.

April 2008

Michelle Fleury, Livestock Market Development Consultant with SPG/APG, attends the Pet Food Forum in Chicago, IL to promote the use of feed peas in pet food diets to industry manufacturers and suppliers. This information is the basis for the pet food Feed Pea Focus edition found in the June edition of *PulsePoint*.

May 2008

Saskatchewan pulse producers seed 4.64 million acres of pulse crops, including 2.9 million acres of peas, 1.56 million acres of lentils, and 180,000 acres of chickpeas.

July 2008

SPG approves a proposal to update and expand the November 2003 study, *Returns on Producer Investments in Pulse Crop Research*, conducted by Dr. Richard Gray of the U of S. Results are expected in early 2009, and will be used to guide future R&D strategy and investment plans.

More than 50 Select status seed growers and processors attend the SPG Select Grower Field Day in Saskatoon (pictured below).

August 2008

Saskatchewan exports of pea, lentil and chickpea reach over \$1 billion.



2007 PULSE PROMOTER AWARD

At Pulse Days 2008, Saskatchewan Pulse Growers, along with BASF Canada presented Germain Dauk with the Pulse Promoter of the Year award for his support and contributions to the Saskatchewan pulse industry.

Germain Dauk was born in 1939 in the town of Anaheim, SK. Germain and his family moved to Muenster, SK where he graduated from St. Peters High School in 1957. Germain went on to further his education at the University of Saskatchewan (U of S) where he received his Bachelor of Education and his Bachelor of Science. Germain played football with the U of S Huskies while in University and in 1964 was a member of the Saskatchewan Roughriders. Football was not Germain's only sport, it was while playing senior hockey with the Naicam Vikings that Germain met wife Myrna Patterson. They have two sons and one daughter and are now proud grandparents of 10 grandchildren. The couple also celebrated their 45th wedding anniversary on January 5, 2008.

Germain has been farming for over 23 years. He farms 4700 acres of canola, peas, lentils, wheat, barley, and oats with his wife and two sons in the Naicam area. In addition to farming, Germain also worked as a high school teacher for 23 years. He gave up full-time teaching for farming in 1981. Germain has filled a variety of term teaching positions since 1981, but still makes the farm his number one priority.

Germain has had an impact on many agriculture organizations throughout his life. Some of Germain's most notable roles include his time spent as a Director with Saskatchewan Canola Growers from 1992-1998, Director with Canadian Farm Business Management Council from 1994-1996, Director with Saskatchewan Pulse Growers from 1998-2004, and as a Chair of Pulse Canada from 2001-2003.

Germain is still a committed member on a variety of boards. Currently, Germain is Chair of Environmental Farm Planning, and Chair of Special Crops Value Chain Roundtable Discussions that address special crop issues in Canada.



Photos clockwise from top: Germain Dauk and Mark Kuchuran of BASF (presenter), Lasantha Ubayasena and Mavis Jaques (presenter), Dr. Al Slinkard (presenter) and Aziz Rehman. Photos by Geoff Howe.



Germain plays an active role in the farming community but he manages to find time to be involved within the town of Naicam. Germain is a devoted member of the Naicam Lions Club and Knights of Columbus and uses his free time to support local minor sports programs.

SCHOLARSHIPS

Lasantha Ubayasena

Recipient of the 2007 Don Jaques Memorial Fellowship.

Aziz Rehman

Recipient of the 2007 Dr. Alfred E. Slinkard Scholarship.

PULSE DAYS 2008 RESEARCH POSTER SESSION WINNERS

Agronomy:

Leah Fedoruk

Leah Fedoruk presented her poster "Optimizing Weed Control Method and Timing for Lentil" in the Agronomy category.

Breeding:

Mohammad Tahir

Mohammad Tahir presented his poster "Analysis of Varietal and Environmental Effects on Soluble Carbohydrates in Lentil Seeds (Lens culinaris Medikus subsp. Culinaris)" in the Breeding category.

Value Added Processing:

Heather Maskus

Heather Maskus presented her poster "Utilization of Dry Field Pea Flour in Tortillas for Food Use Purposes" in the Value Added Processing category.

YOUR CHECK-OFF DOLLARS AT WORK

Research and Development (R&D) remains a top funding priority for Saskatchewan Pulse Growers (SPG). Based on the survey we conducted in February 2008, we know that producers feel they receive value for their check-off and that producers believe our most valuable investment is in R&D, particularly the pulse breeding agreement. The pulse check-off has given pulse producers the ability to target research that is important to them. In addition, researchers supported by the pulse check-off have been very successful in leveraging matching funding from government and private industries.

The goals of the SPG research strategy, developed in October 2002, with a Vision to 2010, are to:

- Increase the net farm value of pulse production, by advancing science in the areas of genetic improvement and sustainable crop production.
- Increase value added processing and manufacturing by understanding pulse quality attributes and developing new uses for pulses.

When producers set up the SPG Board in 1984, funding research was a top priority. This is still the case today with 60 per cent of our annual budget being invested in pulse research. This past year, we supported 24 production research projects focusing on genetic improvement and breeding, 18 agronomy projects and 31 value added processes projects, for a record total of \$4.02 million for 2007/08. All of the research projects funded this past year can be found on pages 10-14.

Our most strategic research investment is our 15-year, \$21 million pulse breeding agreement with the Crop Development Center (CDC) at the University of Saskatchewan (U of S). The CDC is world renowned for its excellence in pulse breeding. They have been very successful in matching pulse check-off funding with financial support from the Agriculture Development Fund, administered by the Saskatchewan Ministry of Agriculture.

Through our unique commercialization agreement with the CDC, SPG has exclusive global distribution rights for pulse varieties developed by the CDC (Clearfield lentils are a distinct situation with some



restrictions). SPG has used this opportunity to develop a Variety Release Program (VRP) to provide producers with unrestricted royalty-free access to new pulse varieties. Over the past twelve years this program has successfully commercialized 64 new pulse varieties. Other agriculture organizations are now studying our model, with particular interest in how producers have remained in control of the commercialization of new varieties. SPG has also developed a niche release, royalty-based commercialization program providing pulse companies with the opportunity to obtain exclusive commercial licenses to new specialty pulse types that require a closed-loop, identity preservation system to develop end-use markets.

In a 2003 study, *Returns on Producer Investments in Pulse Crop Research*, it was reported that for every dollar of check-off SPG invests in research, there was a \$31.00 benefit to the industry and a \$15.60 benefit to producers. SPG is currently conducting an updated Return on Investment (ROI) analysis to reflect our increased R&D funding and to ensure we continue to invest in research that is beneficial to the Saskatchewan pulse industry.



Photos by Geoff Howe.



AN UPDATE FROM *Pulse Canada*

Building a strong and profitable pulse industry rests in the hands of many players – producers, researchers, processors, the food ingredient sector, transportation providers, regulators and many more. Pulse Canada's role focuses on the 'commercialization' of the business and in maintaining and developing profitable markets that will benefit the industry in both the short and long term. With Pulse Canada's work mostly 'behind the scenes', this report is intended to let you know where some of your check-off dollar is being put to work.

Pulse Canada addresses areas that cost growers money like transportation and market access, and areas that could increase profitability such as food business development and feed business development. Core funding from growers and processors support budgets for staff, travel and administration. Pulse Canada seeks out partnerships that leverage industry dollars with government dollars to address pulse industry needs. Every dollar invested by Saskatchewan growers results in five dollars from government and other sources. In 2007/2008, more than 70 per cent of the Pulse Canada budget for projects came from government funding.



More Demand from Food Markets

Canadian pulses are exported as food to more than 150 countries and Pulse Canada wants to maintain and expand that market share. Pulses may also be uniquely placed to capture new markets by capitalizing on consumer interest in health, wellness and the environment. Pulse Canada works to capture this added value in areas of consumer interest in both traditional and new markets.

Obesity is a problem in almost every country in the world. We know that pulses can play a role in



Photo courtesy of Pulse Canada

weight management and diseases associated with obesity, such as heart disease and diabetes. Pulse Canada is meeting with food and ingredient companies and health professionals like dietitians to communicate the health benefits of pulses and to find out what the pulse industry should focus on to engage the food companies. Consumption rates for whole pulses in Canada, the United States (U.S.) and Europe is low and, in most cases, in decline. Working with the food and ingredient industry, Pulse Canada is working to boost pulse consumption, and to increase the number of pulses being used as an ingredient in processed foods. About 75 per cent of the global food dollar is spent buying processed foods and more of these foods could contain pulses. Some of the action is immediate, like responding to dietitians requesting a technical manual that summarizes the health and nutrition benefits of pulses, while providing ideas on how to prepare pulses. Other work is long-term, such as getting health community funders and medical researchers to look at pulses as a key component in the prevention of health problems.

A Pulse Food Symposium targeted at food companies, media and health professionals was held in Toronto in early 2008. The symposium focused on health and nutrition attributes of pulses and potential applications for pulses in foods like crackers or meat extenders. These conferences and other food industry events have opened links with the medical community and food industry giants like Archer Daniels Midland, Campbell's, Frito Lay, General Mills, Kraft and Unilever.

Another Pulse Food Symposium will be held in February 2009. Some food industry figures can help put this potential market into perspective. The North American flour market is 40 million tonnes and is worth about \$24 billion. One per cent of this market would add new demand for at least 400,000 tonnes of pulses. If you add the 25 countries part of the European Union (EU), the new demand for pulses for flour in the EU and North America at a one per cent inclusion rate would exceed current demand for Canadian pulses in India. The processed food market globally is worth \$3.2 trillion dollars, and of the more than 500,000 product launches since 2002, less than 1.5 per cent contained pulses. With more than a third of new product launches in 2007 containing health and wellness messages and exponential growth in product launches on environment and sustainability, the pulse industry can do more to gain a share in the world's wealthiest markets. More demand can mean higher prices and markets for a greater tonnage of pulse production.

While there is 'new' demand in health and nutrition, existing traditional markets remain a priority. Pulse Canada has worked to find a permanent solution to the stem and bulb nematode issue in India, a market access restriction that is creating risks paid for by Canadian growers. Proactive efforts to reduce risk in areas such as pesticide residues are also underway so that phytosanitary barriers cannot be established. Pulse Canada has advocated the importance of a multilateral trade agreement and pursuit of bilateral agreements. The pulse industry has made significant strides forward with the federal government in this area. In 2007/08, Canada completed Free Trade Agreement (FTA) negotiations with Colombia and Peru – markets worth a combined \$70 million per year where Canadian access was threatened due to pending U.S. agreements. Colombia is a large market for Canadian green lentils and Peru is an important market for both peas and lentils. Pulse Canada continues to make the case for a Canada-Morocco agreement to counter the effect of the U.S.-Morocco agreement that will hurt lentil and durum exports from Canada.

What is the Future of the Feed Market

The Canadian feed industry has consumed more than one million tonnes of Canadian peas per year. Increases in global meat consumption will continue to drive demand for animal feed around the world, especially in growth markets like China. Although the returns from the feed market for peas were not competitive in 2008, weather-related damage to peas, the cost of freight to off-shore markets, the price of other feed ingredients and changes in the value of the Canadian dollar can all impact when peas will be competitive in traditional feed markets.

Pulse Canada is also looking closely at pet foods. Current global production of dog and cat food is estimated at 23 million tonnes each year and growing at a rate of five per cent per year. Not only will we need to answer some questions and provide more information to pet food manufacturers regarding the use of peas in pet food, we need to see if we can create interest and value for pulses capturing consumer interest in 'planet friendly pet food', i.e. nitrogen-fixing pulses. Growth of even half of one percent resulting from marketing of environment or extrusion opportunities (115,000 tonnes) would create a significant market.

Transportation

Moving pulses from the farm to over 150 markets around the world is challenging. Over the last two years, weather anomalies, three major labour disruptions, container shortages and deterioration of service across the value chain has put immense pressure on shippers in the pulse industry. In 2007/2008, Pulse Canada initiated a Transportation Strategy. We need to minimize the negative impact that transportation problems have on the industry's net return by having the right equipment, at the right place, and at the right time.

Significant strides towards these goals were achieved in 2007/2008 through the successful lobbying of the federal government to amend the Canada Transportation Act and initiate a Rail Freight Service Review, the development of logistics software for shippers, the offering of education programs, the creation of multi-organization working groups and the completion of an infrastructure needs assessment for the industry.

Environment

Pulse Canada's environment strategy is an emerging and integrated component of food and feed business development. Markets in which 'greener' products have competitive advantages are in their infancy, but are viewed as having large growth potential. According to market research by the influential Food Marketing Institute in the U.S., "a majority of leading food companies and retailers have supply-chain sustainability programs in place, and consumer-focused initiatives are in the early developmental stages."

Pulses and agriculture have a good story to tell about sustainable farming practices and we need to work with food and environment groups to ensure that we are telling the story they want to hear. The Pulse Canada environment strategy includes promoting the low environmental impact of pulses to food, feed and consumer product manufacturers with the greatest interest in ingredients that are positive for the environment. The project is also focusing on ensuring that recognition and rewards are in place for the environmental benefits of pulses in production and utilization systems, and enhancing the pulse component of environmental projects undertaken by government and various industry groups.



Moving Forward

These are exciting times as pulses have the potential to capture more consumer attention in health, nutrition and the environment. Pulse Canada is one of the players working to capture that market value for the betterment of pulse growers and the Canadian pulse industry. To find out more about Pulse Canada's programs, visit our website at www.pulsecanada.com.



SPG FUNDED RESEARCH PROJECTS 2007-08

(PREPARED BY MANAGEMENT)

Project Name	Researcher	Institution	Project Objectives/Results
AGRONOMY			
Sources of Resistance/Tolerance to Mycosphaerella Blight of Pea	Gossen	Agriculture and Agri-Food Canada, Saskatoon	Results: High levels of seed infection had little impact on disease severity or seed yield, but reduced seedling establishment. In trials to assess tolerance, reducing blight severity by applying fungicide did not always increase yield.
Assessing the Benefits of Inoculation at Field Scale – Is Inoculation Necessary on Long-Term Pulse Land?	Walley	University of Saskatchewan	Result: This project confirmed that inoculation is necessary, even on long-term pulse land to enhance nitrogen fixation and to maximize pulse crop yield potential.
Variety Specific Agronomy: Red Lentil Quality	Vandenberg	Crop Development Centre	Result: Producers should be able to influence milling quality through refining agronomic practices that lead to early maturity by avoiding early desiccation when harvest conditions are cool and wet.
Basal Branching in Field Pea: A Strategy for Reducing Seeding Rates and Increasing Weed Competition	Shirtliffe	University of Saskatchewan	Results: Economic analysis revealed that field peas should be seeded at the recommended plant density of 88 plants per square meter. Growers anticipating weed problems should avoid short pea cultivars and pick varieties such as CDC Bronco.
Controlling Indeterminate Lentil Crop Growth Through Nitrogen Supply	Bueckert	University of Saskatchewan	Objective: Test if non-inoculated lentil, relying mainly on soil supplied nitrogen, can have earlier maturity, higher yield and a higher harvest index compared to inoculated lentil that relies on nitrogen fixation.
Effects of Grain Legumes in No-Till Cropping Systems on Soil Quality and Nitrous Oxide Emissions	McKell	Indian Head Agricultural Research Foundation	Results: Nitrous oxide emissions tended to decrease as field pea frequency in rotation increased. Field peas had a beneficial influence on the sustainability of cropping systems at the Indian Head Research Farm.
Using Extra Small Red Lentil Seed as a Cover Crop Following Dry Edible Beans in Ontario	Gillard	University of Guelph	Objective: Determine the feasibility of using extra small red lentil seed as a cover crop following dry bean production in southern Ontario.
Best Management Practices to Improve the Quality Attributes of Red Lentils	Gan	Agriculture and Agri-Food Canada, Swift Current	Objective: Determine the optimum plant population density for seven current red lentil varieties. Determine the effect of seeding dates on growth and development, flowering and maturity, seed yield, visual quality and milling quality. Examine the effect of herbicide options on flowering, maturity, visual quality and milling quality.
Decision Support Parameters for Chickpea Producers in Saskatchewan	Goodwin	Pulse Canada	Objective: Improve technology and information transfer regarding ascochyta blight control in chickpea to producers and agronomists in a timely and effective manner.
Reducing the Use of Organophosphate Insecticides for Grasshopper Control in Lentils	Goodwin	Pulse Canada	Objectives: Develop a functioning in-season forecasting/hatching alert system and an extension service that can explore the opportunity for a biological pest control agent.
Integrated Pest Management of the Pea Leaf Weevil (PLW)	Alberta Pulse Growers	Alberta Pulse Growers	Objective: Enable pea growers to implement an integrated pest management plan for pea leaf weevil.
Reducing Production Risks of Chickpeas by Optimizing Fungicide Applications	Banniza	Crop Development Centre	Objectives: Investigate the effect of fungicide application timing and frequency on the control of ascochyta blight in the new chickpea cultivars with partial resistance to <i>A. rabiei</i> . Compare the efficacy of different fungicide rotations on ascochyta blight control.
In Search of Improved Broad-leaved Weed Control in Lentil – Concept Study	Holm	Crop Development Centre	Objective: Conduct conceptual study to explore broad-leaved weed control options in lentil.

Project Name	Researcher	Institution	Project Objectives/Results
Interaction of Herbicide Applications and Reaction to Ascochyta Blight in Chickpea	Tar'an	Crop Development Centre	Objective: Examine the effects of herbicide applications on ascochyta blight disease pressures and other phenological traits on various chickpea varieties.
Investigation of the Relationship between Fungicides, Microbial Community, and Performance of Crops after Chickpeas	Gan	Agriculture and Agri-Food Canada, Swift Current	Objective: Determine the effect of repeated applications of fungicides in various sequences in chickpea on microorganism community, diversity and enzymes in the soil.
Lifecycle and Socio-Economic Analysis of Pulse Crop Production and Pulse Grain Use in Western Canada	Wismer	Saskatchewan Research Council	Objectives: Conduct a life cycle analysis to assess the environmental impact of pulse crop production in crop rotation and subsequent pulse grain use as animal feed and for human consumption in Western Canada. Assess the socio-economic impacts of pulse crop production in Western Canada.
Soil Carbon and Nitrogen Balance Under Lentil	Lemke	University of Saskatchewan	Objectives: Compare soil gross mineralization and gross nitrification rates on a continuous wheat and a wheat-lentil system. Compare soil quality parameters on a continuous wheat and wheat-lentil system. Track and quantify the below-ground carbon and nitrogen contribution of lentil into specific soil organic matter fractions.
Agronomy Total			\$506,769

BREEDING			
Strategy for Genetic Improvement of Ascochyta Blight Resistance in Chickpea	Warkentin	Crop Development Centre	Result: It was demonstrated that a few genes control resistance to ascochyta blight in chickpeas. It also appears possible to gradually increase the level of resistance beyond that of CDC Frontier.
On-farm Pulse Crop Germplasm Evaluation	Warkentin	Crop Development Centre	Objectives: Utilize on-farm evaluations to evaluate pulse crop breeding lines. Reduce the per unit cost of breeding line evaluation to allow for more efficient screening.
Adding Value to Lentils Through Improvement of Visual Quality Characteristics	Bett	University of Saskatchewan	Results: A study of the effect of swathing vs desiccation on the greenness of a variety demonstrated that swathing was preferable, however there is an increased risk of weathering. Outcomes will include new green lentil varieties with better green colour at harvest and plumper red lentil varieties for increased milling efficiency.
National Gene Deployment Strategy for Control of Common Bacterial Blight for the Canadian Dry Bean Industry	Pauls	University of Guelph	Objective: Develop a comprehensive strategy for biological control of common bacterial blight through resistance gene deployment in several market classes of beans using marker assisted selection.
Improving the Value of Field Peas for Human Consumption	Warkentin	Crop Development Centre	Objectives: Characterize the genetic basis of several key traits affecting the market value of field pea. Identify molecular markers for traits affecting visual quality of pea seeds. Improve the selection capacity for field pea varieties with improved grade potential.
Improving Ascochyta rabiei Resistance in Chickpea	Warkentin	Crop Development Centre	Objective: Find sources of superior resistance to ascochyta blight in the wild perennial Cicer species and to transfer this resistance into the cultivated chickpea.
Pulse Crop Advancement Agreement	Murrell	Crop Development Centre	Objective: Generate superior pulse crop varieties for Saskatchewan producers through the development of new varieties and the improvement of existing varieties.
Memorandum of Understanding to Hire a Pulse Crop Geneticist	Murrell	Crop Development Centre	Objective: Increase the breeding capacity at the Crop Development Centre from two full-time pulse breeders to three.
Pulse Crop Regional Variety Trials	Warkentin	Crop Development Centre	Objective: Provide funding to the CDC for Pulse Crop Regional Variety Trials in Saskatchewan to provide beneficial variety data to growers, seed producers, breeders and seed companies.

Project Name	Researcher	Institution	Project Objectives/Results
Pea Genetic Improvement Program	Various public and private breeding programs	Various	Objective: Ensure that the Saskatchewan pea industry remains competitive in world markets by creating an environment that ensures Saskatchewan pulse producers have access to the best pea varieties.
Saskatchewan Pea Grower Survey	Aerixon Research and Communications		Objective: Determine actual commercial acreage of various pea varieties in 2007 to determine compensation for participants of the Pea Genetic Improvement Program.
Pathogenic, Genetic and Molecular Characterization and Differentiation of Races in <i>Colletotrichum truncatum</i> From Lentil	Banniza	Crop Development Centre	Objectives: Investigate the infection biology of the two identified races of anthracnose on susceptible and resistant lentil genotypes. Determine the distribution of races in lentil growing areas.
Unlocking the Bioavailability of Phosphorous and Micronutrients Through Development of Low Phytate-Phosphorous Pea	Warkentin	Crop Development Centre	Objective: Characterize two low phytate mutants in pea at the physiological, genetic and molecular levels and determine their effects on bioavailability of phosphorous and micronutrients in an animal model.
Genetic Improvement of Bio-available Selenium Content in Lentil Seeds	Vandenberg	Crop Development Centre	Objective: Conduct a series of investigations that will form the scientific basis of a marketing and breeding strategy on biofortification of selenium content for Saskatchewan grown lentil crops.
Collecting Pulse Germplasm on the Crimean Peninsula in Ukraine	Diederichsen	Agriculture and Agri-Food Canada, Saskatoon	Objective: Conduct a collecting mission to preserve pulse germplasm which is in threat of extinction and is of use for Canadian pulse crop breeders.
Pyramiding Novel Genes for Resistance to Ascochyta Blight From <i>Pisum fulvum</i> into Field Pea Through Molecular Breeding	Warkentin	Crop Development Centre	Objective: Initiate a long-term strategy for the enhancement and maintenance of resistance in pea for ascochyta blight using an integrated genetic improvement approach.
Breeding Total			\$2,368,423

VALUE ADDED PROCESSES			
Evaluation and Development of Superior Feed Peas Using Chemical, NIR and Net Energy Evaluation	Racz	University of Saskatchewan	Result: The chemical composition of peas can be reasonably predicted with NIR, but actual digestibility of certain fractions cannot yet be done because of insufficient sample numbers.
Expanding Utilization of Pulses in Meat Processing	Shand	University of Saskatchewan	Objective: Extend utilization of selected pulse protein and carbohydrate fractions in meat products through the use of innovative ingredients and processing conditions.
Comparative Analysis of Functional and Wellness Properties of Lentils: Can Lentils Improve Soccer Performance?	Chilibeck	University of Saskatchewan	Results: Potential performance advantage during high-intensity intermittent exercise following a low glycemic index-high protein pre-exercise meal. A low glycemic index-high protein pre-exercise meal may provide a beneficial effect through reduced perception of effort.
Pea Hull Fibre Fortification of Cereal-based Foods	Dahl	University of Saskatchewan	Result: Cereal-based products fortified with pea hull fibre were successfully developed and evaluated by discriminative and descriptive sensory evaluation for colour and impact on texture.
Development and Commercialization of Pulse-based Pureed Foods	Dahl	University of Saskatchewan	Result: Nutrient dense pureed food products have been developed using pulses. The products have been found to be highly acceptable by the general public.
Establishing the Digestible Nutrient Content and Rate of Starch Digestion of Peas for Poultry as Affected by Processing and Pea Cultivar	Classen	University of Saskatchewan	Objective: Define the impact of feed processing on the rate and degree of digestibility of pea nutrients for chickens.

Project Name	Researcher	Institution	Project Objectives/Results
Evaluation of Technologies for Production of Edible Snack Foods with Demonstrated Health Benefits from Beans and Peas	Arntfield	University of Manitoba	Results: Consumer taste tests of tortillas made with pea and bean flour were favourable. Tortillas made with pulse flours are healthier than white flour tortillas in terms of fibre content, protein levels and anti-oxidants.
Biofunctional and Physiochemical Properties of Pea, Chickpea and Lentil Protein Blends	Boye	Agriculture and Agri-Food Canada, St. Hyacinthe	Result: Ultrafiltration and isoelectric precipitation manufacturing processes increase the concentration of yellow pea, desi chickpea and green lentil protein content, resulting in extracts with 73-84 per cent protein content that were in most instances comparable to (sometimes better than) whey and/or soy proteins suggesting that pulse proteins could serve as an alternative to soy or dairy proteins for the food industry, which could increase the economic value and potential for pulses in nutraceutical markets.
Development of Low Glycemic Index Breads from Pulses	Jenkins	University of Toronto	Objectives: Develop palatable breads made from pulse flours or containing pulse components with low glycemic indices. Position pulse breads as healthy alternatives to commonly consumed wheat based breads.
Enhancing World Markets for Canadian Pulses Through Secondary Processing and Value-Added Research	Malcolmson	Canadian International Grains Institute	Objective: Enhance Canada's image as a supplier of quality pulses and to support the domestic industry in value added initiatives.
Zero-Tannin Faba Beans in Nursery, Growing-Finishing Performance Carcass and Pork Quality Traits	Zijlstra	University of Alberta	Results: Weaner pigs fed the zero-tannin faba bean performed similar to pigs fed the soybean meal control diet. Live performance and carcass variables were similar among hogs offered soybean meal, zero-tannin faba bean, 50% zero-tannin faba bean-50% soybean meal or field pea as dietary supplemental protein source.
Equilibrium Moisture Content Characteristics for Red Lentils	Cenkowski	University of Manitoba	Result: There was a significant difference between the adsorption and desorption equilibrium moisture content (EMC) values for all the varieties tested.
Effect of Daily Pulse Consumption on Intestinal Microbiota, Gastrointestinal Response and Serum Lipids in Healthy Adults	Wright/ Duncan	University of Guelph	Results: Regular daily inclusion of pulses in the diets of healthy individuals is well tolerated. Results also provided valuable information regarding the role of pulses as prebiotics.
Effect of Pulses and Pulse Fractions on Gut Microbial Health	Krause	University of Manitoba	Result: The consumption of pea hulls or whole peas results in an increase in <i>Lactobacillus</i> and <i>Bifidobacteria</i> , both of which are considered important in gut health.
Investigation of a New Fumigant for Use in Controlling Stem Bulb Nematode in Export Containers of Peas	Goodwin	Pulse Canada	Result: Neither phosphine nor sulphuryl fluoride are effective fumigants for <i>Ditylenchus dipsaci</i> in the anhydrobiotic state.
Integrated Approach for Post-Harvest Quality of Red Lentil	Cenkowski/ Tabil	University of Manitoba/ University of Saskatchewan	Objective: Develop a post-harvest handling system to maintain the market and processing quality of red lentil.
Developing a Biofortification Marketing Strategy for Saskatchewan Pulses Based on Selenium Content in the Seed	Vandenberg	Crop Development Centre	Result: It is feasible to consider a marketing strategy based on Selenium content of Saskatchewan crops, particularly pulse crops. It is also technically feasible to improve Selenium uptake in lentil.
The Prebiotic Effects of Chickpeas in Healthy Adults	Dahl	University of Saskatchewan	Result: Both the chickpea and the raffinose diets modulated the gut microbiota of subjects with potentially beneficial, but unique effects.
Micronutrient Profiling of Saskatchewan Pulses to determine Potential Biofortification Strategies	Vandenberg	Crop Development Centre	Objective: Measure the micronutrient profile of nine essential micronutrients in Saskatchewan pulse crop seed and soil samples to assess the potential for marketing strategies for specific micronutrients and genetic improvement strategies for biofortification.
Low Glycemic Index Breads from Beans	Jenkins	University of Toronto	Objective: Produce palatable bean breads for sale in supermarkets, which will have low glycemic indices and be suitable for use by individuals with diabetes or at risk of developing diabetes.
Characterization of the Flavour Properties of Selected Pea Varieties Grown in Saskatchewan	Boye	Agriculture and Agri-Food Canada	Objectives: Characterize the flavour profiles of pea varieties grown in Saskatchewan. Determine the impact of primary and secondary processing on flavour development and stability. Determine the impact of storage conditions on the flavour profile of pea seeds and flours.

Project Name	Researcher	Institution	Project Objectives/Results
Functional Characteristics of Blends of Native/Physically Modified Pea Starches and Native/Physically Modified Corn and Potato Starches	Hood	University of Saskatchewan	Objective: Evaluate the functional characteristics of blends of native/heat-moisture-treated/pregelatinized pea starch and native/physically-modified corn, waxy corn, high amylose corn and potato starches.
Saponins in Peas and their Effects on Palatability in Pigs	Leterme	Priarie Swine Centre Inc.	Objectives: Determine the level of saponins with bitter taste in the principal pea varieties grown in Saskatchewan. Evaluate the incidence of pea saponins on feed intake and feeding behavior of pigs.
Can Arsenic Toxicity in Mammals be Reduced by Feeding Saskatchewan Grown Lentils?	Smits	University of Saskatchewan Western College of Veterinary Medicine	Objective: Determine if there is a scientific basis for superior nutritional and therapeutic qualities of Saskatchewan-grown lentil that will enhance future marketing efforts based on biofortification of nutritional components.
Lentils as an Endurance and Performance Food in Tournament Sports	Chilibeck	University of Saskatchewan	Objective: Test the hypothesis that lentil is a superior source of energy for endurance sporting events compared to other sources of carbohydrate in commonly consumed food items.
Exploitation of Green Lentil as a Substitute for Indian Pulses	TNAU	Tamil Nadu Agricultural University, India	Objective: Conduct a market survey for native pulse based products. Develop green lentil based food products. Transfer technology of green lentil-based food processing to processors for production of green lentil based food products.
Shipping of Green Lentil to India	TNAU	Tamil Nadu Agricultural University, India	Objective: Shipment of Canadian grown green lentil for use in the project Exploitation of Green Lentil as a Substitute for Indian Pulses.
Assessment of Angiotensin I Converting Enzyme (ACE) Inhibitory Properties of Pulse Protein Hydrolysates	Boye	Agriculture and Agri-Food Canada, St. Hyacinthe	Objective: Identify pulse proteins with ACE inhibitory properties.
Effectiveness of Pulse-Based Foods Combined with Exercise for Improving Components of the Metabolic Syndrome	Chilibeck	University of Saskatchewan	Objective: Determine the effect of a pulse-based diet combined with exercise trianing on the metabolic syndrome in older adults.
Value Added Processes Total			\$1,080,005

GENERAL			
Saskatchewan Pulse Crop Development Board Don Jaques Memorial Fellowship	Mohammad Tahir	University of Saskatchewan	Objective: Recognize and support outstanding academic achievement and research interest in pulse crops.
Dr. Alfred E. Slinkard Scholarship	Christine Bennett	University of Saskatchewan	Objective: Promote academic excellence within the area of pulse crop research and recognize the financial need of a student pursuing a Master's of Science degree or Doctor of Philosophy at the University of Saskatchewan in the area of pulse crop research.
A Proposal to Examine the Returns to SPG Research 1984-2008	Gray	University of Saskatchewan	Objectives: To determine how investments and outputs over the past five years changed the rate of return and benefits to producers. Determine the rate of return to producers for recent investments in processing utilization. Determine if there alternative structures that could improve the producer value capture from processing and utilization research.
General Total			\$66,123

SPG FUNDED RESEARCH PROJECTS 2007-08

Total \$4,021,320



Partners

R. Joe Parker

Thomas Stack*

Barry Frank*

Blair Davidson*

Bernie Broughton*

David Ballantyne

Craig Hermann*

Carol Mailloux*

Evan Shoforost*

Orlo Drewitz*

Greg Keller*

Irene Boychuk*

Ryan Ball*

Timothy R. Timmerman

Wes Unger*

Lance Wallace

Senior Counsel

Lee Hergott

Maurice Duval

Lyle Zdunich*

To the Members of Saskatchewan Pulse Crop Development Board

We have audited Saskatchewan Pulse Crop Development Board's control as of August 31, 2008, to express an opinion as to the effectiveness of its control related to the following objectives:

- To safeguard Board resources. That is, to ensure its assets are not lost or used inappropriately; to ensure it does not inappropriately incur obligations; to establish a financial plan to achieve its goals; and to monitor and react to its progress towards the objectives established in its financial plan.
- To prepare reliable financial reports.
- To conduct its activities following laws, regulations and policies related to financial reporting, safeguarding Board resources, revenue raising, spending, borrowing and investing.

We used the control framework developed by The Canadian Institute of Chartered Accountants (CICA) to make our judgments about the effectiveness of Saskatchewan Pulse Crop Development Board's control. We did not audit certain aspects of control concerning the effectiveness, economy and efficiency of certain management decision-making processes.

The CICA defines control as comprising those elements of an organization that, taken together, support people in the achievement of the organization's objectives. Control is effective to the extent that it provides reasonable assurance that the organization will achieve its objectives.

Saskatchewan Pulse Crop Development Board's management is responsible for effective control related to the objectives described above. Our responsibility is to express an opinion on the effectiveness of control based on our audit.

We conducted our audit in accordance with standards for assurance engagements established by the CICA. Those standards require that we plan and perform an audit to obtain reasonable assurance as to effectiveness of Saskatchewan Pulse Crop Development Board's control related to the objectives stated above. An audit includes obtaining an understanding of the significant risks related to these objectives, the key control elements and control activities to manage these risks and examining, on a test basis, evidence relating to control.

In our opinion, Saskatchewan Pulse Crop Development Board's control was effective, in all significant respects, related to the objectives stated above as of August 31, 2008, based on the CICA criteria of control framework.

Control can provide only reasonable, not absolute, assurance of achieving objectives reliably for two reasons. First, there are inherent limitations in control including judgment in decision-making, human error, collusion to circumvent control activities and management overriding control. Second, cost/benefit decisions are made when designing control in organizations. Because control can be expected to provide only reasonable assurance, not absolute assurance, the objectives referred to above may not be achieved reliably. Also, projections of any evaluation of control to future periods are subject to the risk that control may become ineffective because of changes in internal and external conditions, or the degree of compliance with control activities may deteriorate.

*Professional
Corporation

SASKATOON, SASKATCHEWAN
November 13, 2008

Chartered Accountants



Suite 1200, 410 - 22nd Street East Saskatoon, SK S7K 5T6
Phone (306) 934-8000 Fax (306) 653-5859 www.hergott.com

Partners

R. Joe Parker
Thomas Stack*
Barry Frank*
Blair Davidson*
Bernie Broughton*
David Ballantyne
Craig Hermann*
Carol Mailloux*
Evan Shoforost*
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To the Members of **Saskatchewan Pulse Crop Development Board**

We have made an examination to determine whether the Saskatchewan Pulse Crop Development Board complied with the provisions of the following legislative and related authorities pertaining to its financial reporting, safeguarding of assets, spending, revenue-raising, borrowing and investing activities during the year ended August 31, 2008:

The Agri-Food Act, 2004
The Pulse Crop Development Plan Regulations

Our examination was made in accordance with Canadian generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, the Saskatchewan Pulse Crop Development Board has complied, in all significant respects, with the provisions of the aforementioned legislative and related authorities during the year ended August 31, 2008.


Chartered Accountants

SASKATOON, SASKATCHEWAN
November 13, 2008

Senior Counsel


Lee Hergott
Maurice Duval
Lyle Zdunich*

To the Members of **Saskatchewan Pulse Crop Development Board**

We have audited the statement of financial position of Saskatchewan Pulse Crop Development Board as at August 31, 2008, and the statements of operations, changes in net assets and cash flows for the year then ended. These financial statements are the responsibility of the Board's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Board as at August 31, 2008 and the results of its operations and cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.


Chartered Accountants

SASKATOON, SASKATCHEWAN
November 13, 2008

*Professional
Corporation

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

STATEMENT OF FINANCIAL POSITION

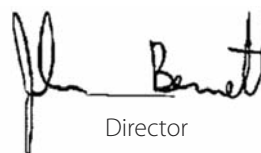
AUGUST 31, 2008

	2008	2007
ASSETS		
Current Assets		
Cash	\$ 439,094	\$ 1,597,626
Cash-externally restricted (Note 3)	375	138,705
Investments	3,536,585	70,511
Investments-restricted	-	819,119
Accounts receivable	1,761,069	1,403,834
Inventory	2,978	6,589
Prepaid expenses	192,040	169,120
Accrued interest receivable	51,558	41,339
	5,983,699	4,246,843
Capital assets (Note 4)	1,037,036	1,044,787
Investments-restricted	2,300,000	1,080,881
Investments	765,840	-
	\$ 10,086,575	\$ 6,372,511
LIABILITIES		
Current Liabilities		
Accounts payable	\$ 649,727	\$ 684,161
Net Pulse Field Lab payable	-	45,030
	649,727	729,191
NET ASSETS		
Externally restricted (Note 3)	(54,125)	(116,325)
Invested in capital assets	1,037,036	1,044,787
Internally restricted	2,300,000	1,900,000
Unrestricted	6,153,937	2,814,858
	9,436,848	5,643,320
	\$ 10,086,575	\$ 6,372,511

See accompanying notes to the financial statements.

Approved by the Board


Director


Director

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

STATEMENT OF OPERATIONS

YEAR ENDED AUGUST 31, 2008

	2008		2007
	BUDGET (Note 8)	ACTUAL	ACTUAL
REVENUE			
Check-off	\$ 8,000,000	\$ 9,773,330	\$ 6,578,792
Research and development	51,000	52,300	34,000
Extension and communication	267,600	273,685	186,599
Variety commercialization	212,200	189,942	290,052
Interest	220,000	223,745	136,748
Directors and office	-	10,000	-
Policy development	-	-	67,358
	8,750,800	10,523,002	7,293,549
EXPENSES (Schedule 1)			
Research and development	4,500,000	4,021,320	3,306,210
Extension and communication	465,500	389,214	248,583
Variety commercialization	399,000	378,458	348,339
Pulse Canada (Note 5)	948,000	772,985	568,470
Directors	251,000	200,520	180,500
Office	981,000	933,731	806,612
Policy development	125,000	77,285	95,869
Domestic market development	39,000	18,161	28,334
	7,708,500	6,791,674	5,582,917
Excess of revenue over expenses	\$ 1,042,300	\$ 3,731,328	\$ 1,710,632

See accompanying notes to the financial statements.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

STATEMENT OF CHANGES IN NET ASSETS

YEAR ENDED AUGUST 31, 2008

	EXTERNALLY RESTRICTED (Note 3)	INVESTED IN CAPITAL ASSETS	INTERNALLY RESTRICTED	UNRESTRICTED	2008	2007
NET ASSETS						
Balance, beginning of year	\$ (116,325)	\$1,044,787	\$ 1,900,000	\$2,814,858	\$ 5,643,320	\$ 3,935,211
Transfer to restricted fund	-	-	400,000	(400,000)	-	-
Excess of revenue over expenses	-	-	-	3,731,328	3,731,328	1,710,632
Pulse Field Lab						
Contributions	62,200	-	-	-	62,200	110,367
Expenditures	-	-	-	-	-	(112,890)
Purchase of capital assets	-	23,574	-	(23,574)	-	-
Loss on write down						
of capital assets	-	(1,985)	-	1,985	-	-
Amortization	-	(29,340)	-	29,340	-	-
Balance, end of year	\$ (54,125)	\$1,037,036	\$ 2,300,000	\$6,153,937	\$ 9,436,848	\$ 5,643,320

See accompanying notes to the financial statements.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

STATEMENT OF CASH FLOWS

YEAR ENDED AUGUST 31, 2008

	2008	2007
CASH FLOWS FROM OPERATING ACTIVITIES		
Excess of revenue over expenses	\$ 3,731,328	\$ 1,710,632
Items not affecting cash		
Amortization	29,340	30,977
Loss on writedown of capital assets	1,785	3,186
Net change in noncash working capital balances relating to operations:		
Accounts receivable	(357,235)	(606,908)
Inventory	3,611	4,178
Prepaid expenses	(22,920)	122,636
Accrued interest receivable	(10,219)	80,635
Accounts payable	(34,433)	(127,387)
(Decrease) increase in net Pulse Field Lab payable	(45,030)	13,326
	3,296,227	1,231,275
CASH FLOWS FROM INVESTING ACTIVITIES		
Funding of Pulse Field Lab	200,530	(154,348)
Proceeds from sale of capital assets	200	770
Purchase of capital assets	(23,574)	(4,695)
Investments	(4,631,915)	70,511
	(4,454,759)	(87,762)
Net (decrease) increase in cash during the year	(1,158,532)	1,143,513
Cash, beginning of year	1,597,626	454,113
Cash, end of year	\$ 439,094	\$ 1,597,626

See accompanying notes to the financial statements.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

NOTES TO THE FINANCIAL STATEMENTS

AUGUST 31, 2008

1. NATURE OF ORGANIZATION

The Saskatchewan Pulse Crop Development Board ("the Board") is a non-profit organization which was established in 1984 under the Agri-Food Act of Saskatchewan.

The mission of the Board is to provide leadership for an innovative, profitable and sustainable Saskatchewan pulse industry, through research, market development and communication in collaboration with stakeholders.

2. SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared to reflect the following significant accounting policies:

Investments

Investments are recorded at fair value based on year end quoted market prices and consist primarily of money market funds and guaranteed investment certificates maturing or redeemable at various dates not exceeding thirty six months, at interest rates of 3.25% to 5.05%.

Inventory

Inventory is stated at the lower of cost and net realizable value.

Capital assets

Land and equipment are stated at cost. Equipment is amortized using the declining balance method at a rate of 20 to 50%. On acquisitions of equipment during the year, amortization is calculated based on a full year of usage. On disposals of equipment during the year, no amortization is recorded. Previously, amortization was calculated at one half the annual rate on acquisitions and disposals.

Appropriation of funds

The Board of Directors has approved the appropriation of certain funds generated from operations to be set

aside to be used in the future as an operating reserve.

The amounts of these appropriations and the appropriated balances are accounted for and disclosed separately in the financial statements as internally restricted funds.

Revenue recognition

Check-off is recognized at the time of settlement.

Government assistance and grants are recognized as related costs are incurred.

Pledges related to the fundraising effort for the Pulse Field Lab are recognized when collected as a direct increase to the externally restricted net assets.

Research contributions and donations are recognized in these financial statements in the period defined in the terms and conditions of the respective agreements.

The organization follows the deferral method of accounting for contributions. Externally restricted contributions other than those related to the Pulse Field Lab capital project are recognized as revenue in the year in which the related expenses are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is assured.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

NOTES TO THE FINANCIAL STATEMENTS

AUGUST 31, 2008

2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Income taxes

No provision for income taxes has been made in these financial statements as the organization is exempt from income tax under Section 149 (1) of the Income Tax Act.

Use of estimates

The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period.

By nature, asset valuations are subjective and do not necessarily result in precise determinations. Should underlying assumptions change, the estimated net recoverable amount could change by a material amount.

Management periodically reviews the carrying value of the capital assets to ensure that the carrying value can be recovered from future cash flows. Management also periodically reviews the useful lives of the capital assets to determine, in their judgment, an adequate charge against income for amortization expense.

Adoption of new accounting policies

The Canadian Institute of Chartered Accountants ("CICA") has issued recommendations for the recognition, measurement and disclosure of financial instruments. Specifically, Section 3855 "Financial Instruments-Recognition and Measurement" and Section 3861 "Financial Instruments-Disclosure and Presentation" establish standards for the recognition, classification, measurement, and presentation and disclosure of financial assets, financial liabilities and non-financial derivatives. As a result of the adoption of these new policies, the organization has designated its financial instruments as outlined in the following paragraph.

Cash is classified as held-for-trading and is recognized at fair value. Accounts receivable are classified as loans and receivables and are recorded at their amortized cost by applying the effective interest method. The organization's investments are classified as available-for-sale. Unrealized gain and loss on investments, being the difference between the book value and fair value based on quoted value, would be included in investment income in the statement of operations. Accounts payable and long-term debt are classified as other financial liabilities and recognized at their amortized costs by applying the effective interest method.

The above new accounting policies have been applied prospectively, prior periods have not been restated, and there has not been any current period effect from these changes in accounting policy.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

NOTES TO THE FINANCIAL STATEMENTS

AUGUST 31, 2008

3. EXTERNALLY RESTRICTED

In 2002, the Board launched a capital fundraising campaign to raise \$1.5 million of the \$3 million needed to expand pulse research facilities at the University of Saskatchewan and establish a Pulse Field Lab. The remaining funding of \$1.5 million was provided by the Saskatchewan Agriculture Food & Rural Revitalization Agri-Food Innovation Fund. Construction of the Field Lab and purchase of equipment has been completed as of August 31, 2008. Fundraising efforts of the Board contributed \$1,373,021 in total toward project costs to the end of August 31, 2008. Included in this amount is a contribution of \$750,000 by Western Economic Diversification.

In addition to project management, communications, and fundraising support, the Board committed funding up to \$750,000 for the Field Lab. To date, \$618,825 has been received from industry, while another \$56,200 has been pledged to August 31, 2008. Due to cost savings in the project, the Board will not be required to contribute the maximum amount and there is no expected future liability for this project to the extent that pledged amounts are collected.

The Board has also advanced \$210,000 to pay costs incurred for the Field Lab, of which \$155,500 has been reimbursed as of August 31, 2008. As of August 31, 2008, \$375 has been restricted for the Field Lab.

4. CAPITAL ASSETS

	COST	2008 ACCUMULATED AMORTIZATION	NET BOOK VALUE	2007 NET BOOK VALUE
Equipment	\$ 167,696	\$ 120,495	\$ 47,201	\$ 54,952
Land	989,835	-	989,835	989,835
	\$ 1,157,531	\$ 120,495	\$ 1,037,036	\$ 1,044,787

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

NOTES TO THE FINANCIAL STATEMENTS

AUGUST 31, 2008

5. PULSE CANADA

Pulse Canada is a national organization comprised of pulse trade and grower organizations from Alberta, Saskatchewan, Manitoba and Ontario. Pulse Canada's key activities include:

- Market Access: To minimize additional supply chain costs created by market access barriers such as import duties, taxes, sanitary and phytosanitary measures, regulatory and other barriers.
- Business Development-Human Food and Nutrition: To develop new market opportunities for pulses in food applications to increase the demand for Canadian grown pulses.
- Business Development-Animal Feed Nutrition: To develop new market opportunities for pulses in high value feed channels such as pet food and aquaculture.

- Transportation: To eliminate barriers associated with accessing equipment and rail service to reduce risk in transporting products.

- Environment: To capitalize on the environmental value of nitrogen fixing crops for sustainable food, feed and bioproducts.

The Board is providing program and project funding to Pulse Canada. Amounts committed in each of the next three years are as follows:

2009	\$ 928,500
2010	946,000
2011	442,500

6. RESEARCH AND DEVELOPMENT GRANTS

The Board of Directors has approved future funding for several research and development projects. Amounts committed to these projects in each of the next five years, assuming the terms of the contracts are fulfilled, are as follows:

2009	\$ 3,267,419
2010	2,149,876
2011	370,866
2012	65,621
2013	40,000

7. LEASE COMMITMENTS

A five-year lease agreement, which expires in 2011, exists with the Saskatchewan Opportunities Corporation for the premises at 411 Downey Road, Saskatoon, Saskatchewan; multi-year agreements exist with various suppliers of office equipment. Yearly rental payments due in each of the next four years are as follows:

2009	\$ 74,609
2010	74,609
2011	74,609
2012	10,354

8. BUDGETED FIGURES

These figures are based on the budget as presented at the Annual General Meeting held on January 8, 2008, and have been reclassified to conform to the financial statement presentation.

SASKATCHEWAN PULSE CROP DEVELOPMENT BOARD

SCHEDULE OF EXPENSES

YEAR ENDED AUGUST 31, 2008

	2008 BUDGET (Note 8)	2008 ACTUAL	2007 ACTUAL
RESEARCH AND DEVELOPMENT			
Agronomy	\$ 170,572	\$ 506,769	\$ 314,772
Breeding	2,242,791	2,368,423	2,377,647
Value added processes	405,424	1,080,005	573,791
General	40,000	66,123	40,000
Available for new projects	1,641,213	-	-
	4,500,000	4,021,320	3,306,210
EXTENSION AND COMMUNICATION			
Communications	307,800	255,030	119,060
Crop production week	110,900	106,003	101,564
Extension meetings	28,000	17,677	14,034
Other	18,800	10,504	13,925
	465,500	389,214	248,583
VARIETY COMMERCIALIZATION	399,000	378,458	348,339
PULSE CANADA	948,000	772,985	568,470
DIRECTORS			
Communications	11,550	9,364	9,889
Election	24,000	-	-
Honoraria	108,400	103,934	85,325
Travel	70,300	62,461	61,635
Other	36,750	24,761	23,651
	251,000	200,520	180,500
OFFICE			
Communications	16,600	17,235	15,565
Contract work	78,200	66,893	56,830
Office	126,700	134,201	111,201
Salaries and benefits	670,000	628,547	580,022
Travel	54,000	50,707	23,554
Other	35,500	36,148	19,440
	981,000	933,731	806,612
POLICY DEVELOPMENT	125,000	77,285	95,869
DOMESTIC MARKET DEVELOPMENT	39,000	18,161	28,334
	\$ 7,708,500	\$ 6,791,674	\$ 5,582,917

See accompanying notes to the financial statements.



Saskatchewan Pulse Growers
104-411 Downey Road
Saskatoon, SK S7N 4L8

Telephone: 306-668-5556
Fax: 306-668-5557
Email: pulse@saskpulse.com

www.saskpulse.com



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